Product Change Notification

Change Notification #: **119107-00**

Change Title: **Intel® Arria® 10 Devices,**
PCN 119107-00, Manufacturing Site,
Alternate Substrate Manufacturing Site

Date of Publication: **June 17, 2022**

Key Characteristics of the Change:

Manufacturing Site

Forecasted Key Milestones:

Last date to acknowledge receipt of this notification[1]	July 18, 2022
Earliest change implementation	September 30, 2022

Note 1: J-STD-046, section 3.2.3.1b, stipulates that lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.

Description of Change to the Customer:

This is the same change described in PCN2216 issued on June 17, 2022

Intel is announcing the addition of UMTC S3 as an alternate substrate site for selected Arria 10 devices. UMTC is a long-time qualified, high-volume site for Intel devices.

Change Details

	Existing Substrate	**Substrate from New Site UMTC S3**
Build Up Material	**GZ41**	**GY16B**
Bump Pad Surface Finish	**OSP (Organic Solderability Preservative) +Sn0.7Cu**	**ENEPIG (Electroless Nickel Electroless Palladium Immersion Gold) + Sn0.7Cu**
Ball Pad Surface Finish	**OSP+LFSOP (Lead-free Solder on Pad) SAC305**	**ENEPIG**

Note: The rest of the Bill of Material (BOM) remains the same

Reason for Change:

The qualification of an additional substrate site supports supply chain risk mitigation.

Qualification Plan:

Qualification testing was performed to further evaluate the quality and reliability performance of UMTC S3 substrate for the products specific to this PCN.

Board Level Temperature Cycling is estimated to complete by July 2022.

Reliability Test Result:

Vehicle Device: 10AXF40GAE

Test	Time point	Conditions	Standard	# of Lots/#of units	Result
Temperature Cycle Test (TCB)	1000 Cycles	-55°C /125°C	JESD22-A104	3 lots/150units	Pass
Temperature Humidity Bias (THB)	1000hrs	85ºC/85% RH	JESD22-A101	3 lots/150units	Pass
Unbiased Highly Accelerated Stress Test (uHAST)	96hrs	130°C / 85%RH	JESD22-A118	3 lots/150units	Pass
High Temp Storage (HTS)	1000hrs	150°C	JESD22-A103	3 lots/150units	Pass
Warpage		25°C to 260°C (<10 mils)	SPP-024A	3 lots/150units	Pass
Board Level Temperature Cycling	2000 Cycles	0°C to 100°C/0.1%	IPC 9701	1 lot/30 units	Due in July 2022

Note 1: Preconditioning performed according to J-STD-020, MSL3 @ 260C reflow

Customer Impact of Change and Recommended Action:

There is no impact to form, fit, and function. The products will meet existing electrical and mechanical specifications. Quality and reliability were evaluated through qualification testing.

Customers are requested to:

1. Acknowledge receipt of this notification.
2. Review and inform us, at the earliest convenience, of any questions or concerns regarding this change.

Please refer to the “Forecasted Key Milestones” above for the key milestones. Upon implementation, Intel will ship products using substrate from any of the qualified sites.

Products Affected/Intel Ordering Codes:

Product Family	Pin Count
Arria 10	**F780, F1152, F1517**

The list of affected part numbers (OPNs) can be downloaded in Excel form:
https://www.intel.com/content/dam/support/us/en/programmable/support-resources/bulk-container/pdfs/literature/pcn/pcn2216-opn-list.xlsx

PCN Revision History:

Date of Revision:	Revision Number:	Reason:
June 17, 2022	00	Originally Published PCN

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No response from customers will be deemed an acceptance of the change, and the change will be implemented pursuant to the key milestones set forth in this attached PCN.

Should you have any issues with the timeline or content of this change, please contact the Intel Representative(s) for your geographic location listed below.

Americas Contact: asmo.pcn@intel.com
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